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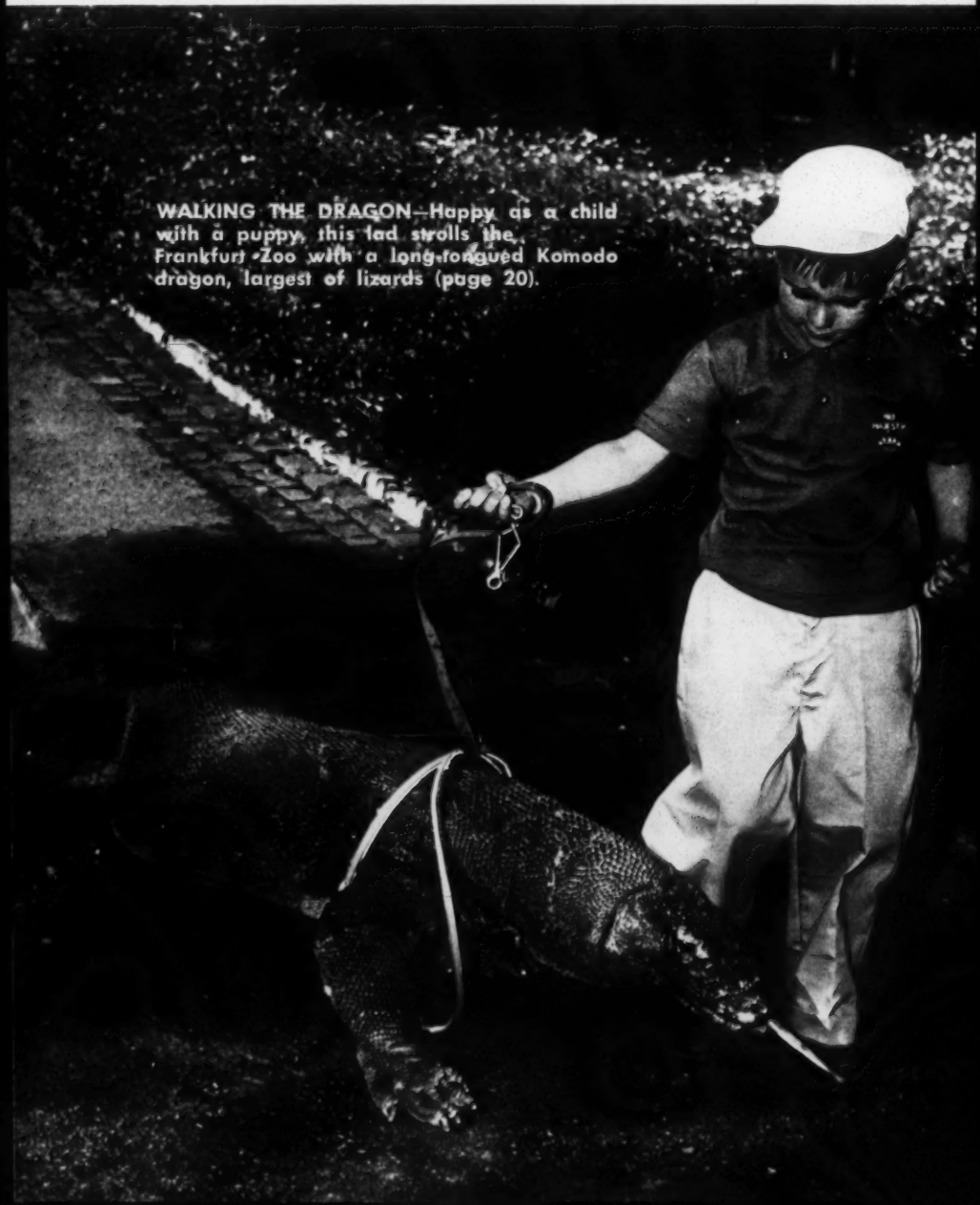
OCTOBER 10, 1960 • VOLUME 39 • NUMBER 2 . . . *To Know This World, Its Life*



WALKING THE DRAGON—Happy as a child with a puppy, this lad strolls the Frankfurt Zoo with a long-tongued Komodo dragon, largest of lizards (page 20).

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OF AMERICA

cal standards. Mechanics in several countries can repair them, and cars shuttle between nations.

At an international school in the city of Luxembourg, children study and play in four languages: French, German, Italian, and Dutch. Their annual Christmas festival features "Silent Night" in all these tongues.

A German scientist in Brussels consults with a French colleague on the feasibility of supplying Italian industry with nuclear power.

Basically, Europa is a pooling of resources. Ten years ago Robert Schuman, French foreign minister, breathed the first real life into the idea when he proposed that nations pool their coal and steel. He reasoned this way: not any of the countries are self-sufficient. Germany imports half the iron ore its blast furnaces eat up. France exports iron but buys coal and coke from Germany. Italy also needs coal. The Netherlands requires steel but Belgium and Luxembourg manufacture more than they need. Both the latter import iron ore and coke.

GSB MAP

Ten years ago exchange of these commodities was difficult. High tariffs had built walls between these nations. Red tape made transportation between them slow. When a Dutch freight car had to

Pulling together is for children, too. These youngsters play and work side by side in four languages at the European School in Luxembourg, set up for children of employees of the European Coal and Steel Community. In 1959 it granted its first "high school" diplomas—to eight Germans, five Frenchmen, four Belgians, four Italians, one Dutchman, and one Austrian. These certificates, recognized by all universities in the Community countries, break for the first time educational walls between the nations. A branch school has been opened in Brussels for children of persons connected with Common Market and Euratom.

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PHOTOGRAPHS FROM THE EUROPEAN COMMUNITY. COVER, WIDE WORLD

EUROPA– In Union, Strength

THE STORY OF EUROPA, the "United States of Europe," is the brightest chapter in international relations since World War II. Six nations, looking forward instead of back, are burying nationalism and enjoying the fruits of economic cooperation. Border officials above smile as goods (and people) move easily across boundaries more noted for Maginot Lines and protective tariff walls.

The Old World has learned from the New; in federation lies strength. As the 13 American colonies once united for political and economic benefit, so West Germany, France, Italy, the Netherlands, Belgium, and Luxembourg have extended hands across the borders. Mutual effort is helping the west European community to compete as a unit in world trade, rather than as individual nations.

How does it work?

A red and yellow passenger train streaks across Western Europe every day, piercing national borders as nonchalantly as if they were state lines between Pennsylvania and New Jersey. Customs and passport inspection which holds up other trains at borders takes place smoothly between regular stops on the Trans Europ Express.

A line of freight cars clanks through the Netherlands. One marked EUROP contains electrical machinery for West Germany. Germans refill it with pottery clay for Italy. In Italy, the car takes on rice for France. Freight cars used to "deadhead" home after every run. Now EUROP cars have similar braking systems and meet other identi-

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EDUCATIONAL PRESS ASSOCIATION OF AMERICA

Europa's Members	Area (sq. mi.)	Population	Main Imports	Main Exports
BELGIUM	11,779	9,107,000	Motor vehicles machinery, iron ore	Textiles, metal products, glassware
FRANCE	212,822	44,970,000	Grain, iron ore, coal	Fabric, clothing, lace
ITALY	116,303	49,055,000	Raw cotton, coal, mineral oil	Machinery, fruits and vegetables, yarns
LUXEMBOURG	999	323,520	Coal, petroleum, automobiles	Iron, steel
NETHERLANDS	12,529	11,331,000	Sugar, spices, coffee	Dairy products, canned ham, bulbs and cut flowers
WEST GERMANY	95,738	52,776,000	Food, iron ore	Machinery, coal and coke, iron and steel

legislative, and judicial branches. Now appointed, the executive and legislative branches will be elected by popular vote at a future date.

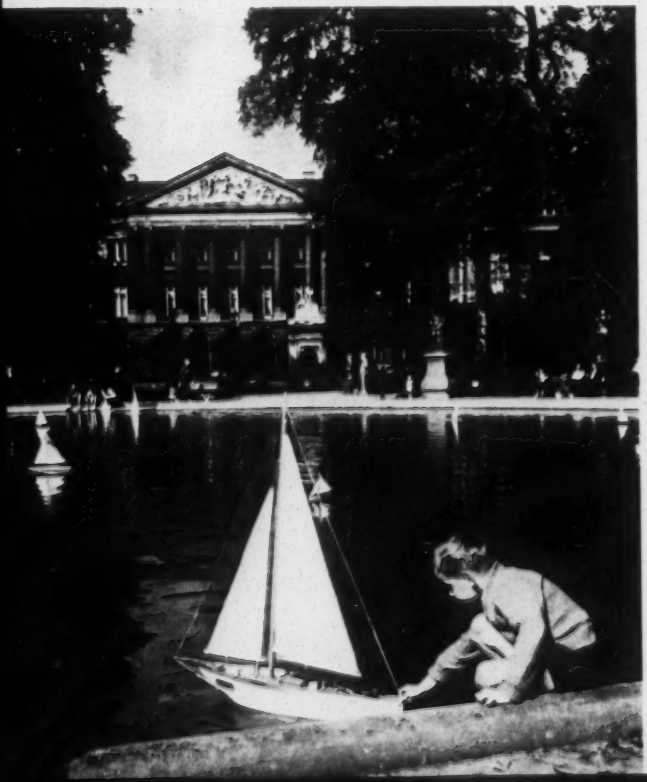
The Dutch are building an entirely new seaport—*Europoort*—to serve the Community. When opened in 1965, it will boast new steel, chemical, and oil plants, and the world's largest dry docks.

But there are problems. For one thing, not all of Europe is in Europa. A rival economic group called the European Free Trade Association, or the Outer Seven, includes Great Britain, Austria, Switzerland, Norway, Sweden, Denmark, and Portugal.

Nationalism, which dies hard anywhere, is still Europa's biggest hurdle. To what extent will Belgium, for instance, whose Parliament building in Brussels is pictured at left, be willing to give up more of its sovereignty to a central government? Unlike the United States where a Pennsylvanian or Missourian thinks of himself as an American, an Italian or German thinks of himself as Italian or German.

School children argue whether Charlemagne, master of the first Europa, was German or French. Europa's final battle will be won when children and adults regard him and themselves as Europeans. L.B.-R.G.

BENEDICT VANDOORNE



COMING NEXT WEEK . .

Coverage of Malaya; a 15-year-old's summer of work on desert beetles; gravity; and Germany's picture-book Black Forest. Series in preparation: religions of the world, and "The Living River."

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WALTER MEAYERS EDWARDS, NATIONAL GEOGRAPHIC STAFF

ERICH LESSING, MAGNUM

From French vineyard (above) and German steel mill (right) come the products of a Europe moving closer to economic unity after centuries of expensive rivalry.

return to the Netherlands after each run, transportation was not only slow but expensive. Nations discriminated against each other in pricing—a tractor, for example, sold for different prices in France and Germany. At one time coal mined in Pennsylvania and shipped to Hamburg was actually cheaper than that mined in Europe.

So the six nations formed what they called the European Coal and Steel Community to allow these resources to flow as freely among them as they do between Duluth and Pittsburgh and Detroit. Each manufacturer now sells in a single market covering 450,000 square miles and 170,000,000 consumers.

As the ECSC flourished, two other unions followed: Euratom, to develop cooperatively the peaceful uses of atomic energy, and the European Economic Community, or Common Market. If coal and steel industries thrived with trade barriers weakened, it was thought, why not other industries? So this European Economic Community took on the job of abolishing all trade restrictions between the six nations by 1972.

To do the job, the "United States of Europe" has set up a government in Luxembourg similar to that of the United States of America, with executive,

WALTER MEAYERS EDWARDS, NATIONAL GEOGRAPHIC STAFF

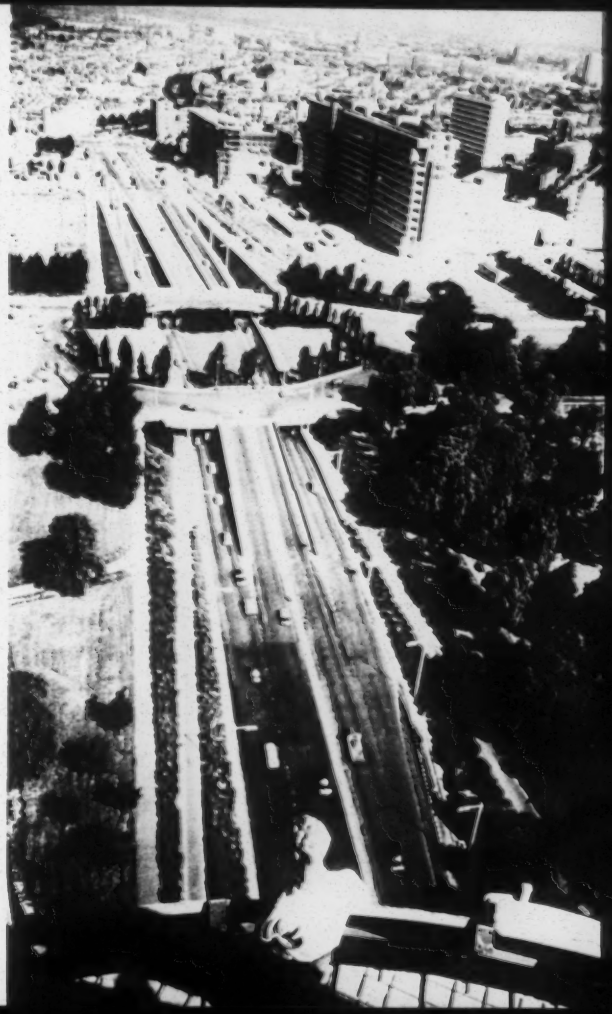
Italian automobiles by the truckload move into Europe-wide trade channels from a bustling plant in Turin.

DEVER FROM BLACK STAR, RIGHT, JAMES BLAIR

NOT UNTIL AFTER World War II could the Dutch begin rebuilding their city. The result has been a modern metropolis of steel, stone, and glass, lavishly spotted with green parks and threaded with fast automobile roads (right). The Rotterdammers, however, were careful to preserve reminders of their town's great past, including a memorial to one of its most successful exports. In the Delfshaven section a block-long street beside the old harbor is maintained exactly as it was in 1620, when a band of Pilgrims set sail in the ship *Speedwell* to join *Mayflower* in the long voyage to the New World.

These old buildings, as well as the most modern, stand on pilings driven into the soft mud, sand, and silt of the Rhine Delta, making Rotterdam a city on stilts.

Rush hour in Rotterdam is much like rush hour in any American city—except that the Dutch, like other Europeans, use many more bicycles than we do (left). Mrs. Miller joined homeward-bound clerks, stevedores, and typists one evening. She writes: "The bus I hopped aboard was jam-packed. I rode to the end of the line. Along the winding route we made frequent stops in new garden villages. Breadwinners dismounted a few steps from their doors. Children and dogs dashed out noisily in a fluster of home coming." F.S.



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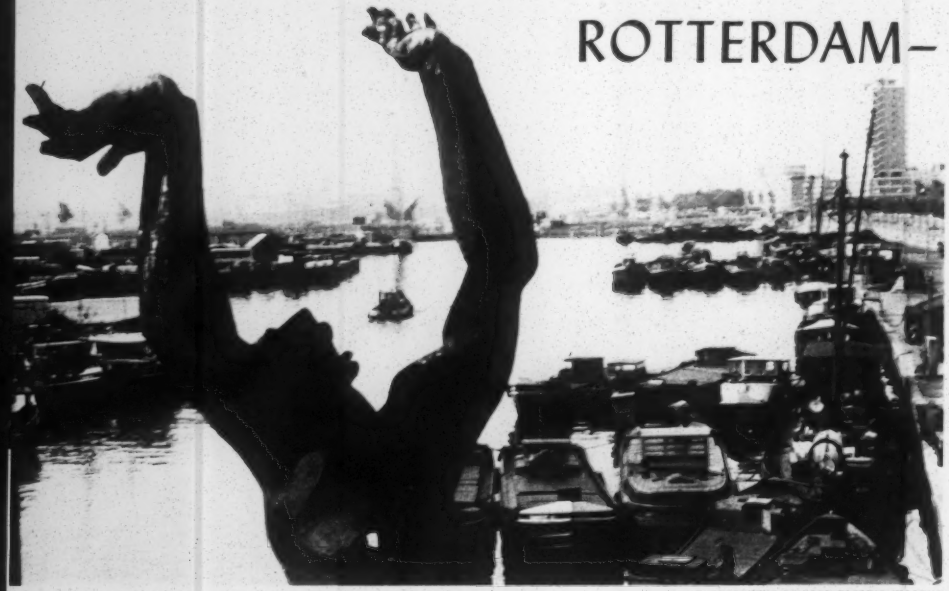
ROTTERDAM– *Europe's Busiest Port*



PHOTOGRAPHS BY KRYN TACONIS, MAGNUM

AT ROTTERDAM, sea lanes meet the vast web of European waterways. The city straddles the New Maas River, 18 miles from the North Sea, with channels dredged to handle ocean-going ships. Since the New Maas is a mouth of the Rhine, barges offer cheap transporation to and from Germany, France, Belgium, Switzerland, and the Netherlands. More than 20,000 ships each year unload 70 million tons of merchandise. "A hundred years ago, Rotterdam had only 100,000 people; today we have about 750,000," the *Burgemeester* (mayor) told Helen Hill Miller, author of "Rotterdam–Reborn from Ruins" in the October, 1960, NATIONAL GEOGRAPHIC. "Our growth started when Germany's Ruhr was industrialized in the mid-19th century, and we built the New Waterway to let big ships pass to and from the sea."

AGONY IN BRONZE stands beside the harbor of Rotterdam, Europe's busiest port, a symbol of the complete destruction rained down by Hitler's bombers. But behind the tormented statue the docks are busier than ever.

In little more than a decade, the Dutch have built a new, more livable city where bombs and fire had left a desert (right). Already the second busiest port in the world (after New York), Rotterdam is hard at work on a $150 million expansion program designed to capture much of the trade of the new European Common Market (see pages 14 to 17).

extinct reptiles have been preserved as sand or mud solidified into rock, leaving a fossil record we can read today. The earliest known ancestor of the dragon appeared on Earth in the Eocene era, some 60,000,000 years ago.

The long, yellow tongue, flashing in and out of a red-lined mouth, is a sensory organ used apparently for both touch and smell. The dragons, like snakes, are deaf; a shotgun fired over their heads from a few yards away does not disturb them, nor do human voices from within a photographer's blind. They make no sound themselves except an angry hissing when disputing a meal. They have keen sight and smell, however.

Komodo dragons enjoy heat; they rarely stir from their caves until the sun is well up in the sky. The only large meat-eaters on the islands, they prowl until dusk,

SVEN GILSAETER, BLACK STAR

the small ones taking care to stay out of the way of the big ones. In their animal society the giant lizards apparently fulfill the function of the lion, tiger, or leopard in other areas: they control the populations of deer, pig, and other animals, keeping their numbers in balance with the ability of the islands to feed them.

The scaly body armor of the old 10-footers is almost black and often scarred, that of the younger lizards of a lighter, chestnut shade. Early explorers of the islands, carried away by the size of the monsters, reported some 23 feet in length, a size that no one since has been able to confirm.

The resemblance of the Komodo lizard to the dragons of Chinese mythology, especially the tongue and head shape, has led some researchers to believe that similar lizards inspired the most ancient of those drawings. The chief thing lacking is the ability to breathe fire—and one photographer who watched a big, evil-looking dragon stalk almost into his blind declared he wouldn't have been surprised if it had exhaled a few flames. F.S.

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Dragon Kings of Komodo

SVEN GILSAETER, BLACK STAR. RIGHT, PAT COLLINS

THE AGE of dinosaurs is not quite over.

On four rarely-visited islands of Indonesia, giant lizards still stalk their prey, sharp claws glinting and forked tongues flicking out of massive heads.

Named the Komodo dragon after one of the islands, these brutes reach a length of 10 feet and a weight of 200 pounds.

That an animal of this size could lurk about, its existence unsuspected by scientists until this century, seems as fantastic as the beast itself.

But its habitat is so remote, and its habits so wary, that it was not until 1912, when a Dutchman brought out five specimens, that reptile experts learned of the world's largest lizard.

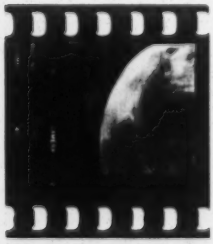
Called the *buaja darat*—land crocodile—by the natives, the dragons prey on deer and wild pig, and are not above eating carrion when it can be found. Students wishing to attract them set out a bait of boar carcasses. A large dragon has been seen to swallow whole the entire hindquarters of a pig.

Although its long claws, sharp teeth and muscular tail make the dragon a formidable animal among the rocks and grass of Komodo, captured specimens often become quite docile in captivity, as the cover picture shows. They eat chickens and eggs—occasionally biting off the bowl of the heavy egg spoon and swallowing it along with the meal.

Some have been known to follow their keepers about like dogs, and one allowed its tail to be used as a steering apparatus on walks around the London Zoo.

On the beaches of Komodo (below), the long tail drags behind the lizard, waving to and fro to produce a serpentine track (right) between the footprints. Similar tracks of long-

High-flying *Tiros* cameras look homeward. From 450 miles in space, Florida's 500-mile length juts like a thumb. White edges indicate shoals along the Gulf coast. Clouds to north bathe the Great Smokies. The 35-mm. original below, shown actual size, was received by a station that ordered the satellite to turn on its signal, then automatically recorded frame number, orbit, sun angle, and the camera used. *Tiros I* still flies, but sends no more pictures. Authorities predict it will stay aloft 50 to 100 years.



NASA

from far above its own atmosphere.

In stunning succession other spectacular panoramas flashed on the screen, such as the view of Florida above. Man could see—as though from a space ship—great segments of Earth's continents. Perhaps more important, he could gaze down upon the splotchy cloud blanket that might foretell its weather.

Tiros I had an active life of 78 days, transmitting 22,952 pictures. Finally, a relay failed and its picture transmitter died. Today it still circles Earth every 100 minutes. Its eye is blind, but listeners hear a faint radio-locating signal.

The United States eye-in-the-sky has given the weatherman a valuable new tool. Relatively few areas in the world (Europe, United States, and Japan are three) have well-knit weather observation networks. Meteorologists thus monitor only small patches of the world's weather. Hence a disturbance like a hurricane can quietly grow to maturity in a secluded corner of the ocean before being discovered.

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NATIONAL GEOGRAPHIC PHOTOGRAPHER W.D. VAUGHN, RIGHT, NASA

Tiros-America's
EYE IN THE SKY

GRAY DAWN seeps into the New Jersey sky as the technician studies his control console within the recording station.

Miles to the south at Cape Canaveral, Florida, a slim, white missile lifts majestically from its pad and thrusts through the brightening clouds.

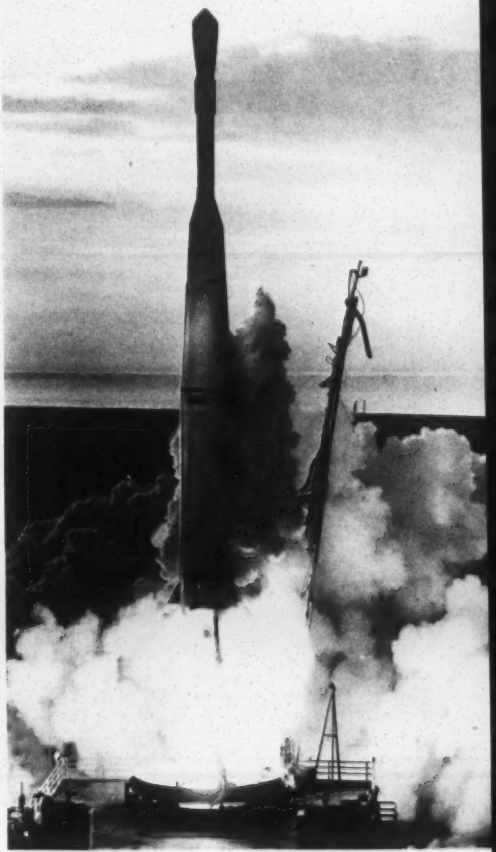
Two bottom stages push it to an altitude where its speed balances Earth's gravity and sends the payload whirling around the planet. Their job done, the boosters fall away. A plastic shroud drops and *Tiros I* unveils 9,300 solar cells to the morning sunlight. From the cells comes energy to run its small but efficient equipment.

As *Tiros* (Television and Infra-Red Observation Satellite) makes its first orbit over the recording station, a technician presses a button electronically instructing the satellite to start clicking its two cameras as it crosses the St. Lawrence River area.

An ingenious electronic "clock" in the satellite stores the instructions, then at the exact moment tells the cameras to start shooting. They snap a picture every 30 seconds. When *Tiros* is too far from a data site to transmit its pictures directly, they are scanned and stored by a tape recorder. As the 264-pound satellite glides overhead again, the man on the ground commands it to transmit the stored picture. Down through space come the *beep-beeps* to be picked up by a bristling antenna, unscrambled by electronics, and written on a television picture tube for photographing with a conventional camera.

Scarcely four hours after *Tiros I* zoomed aloft last April the men at the Fort Monmouth, New Jersey, station saw a recognizable picture of the St. Lawrence on their video tube.

Thus did Earth have its picture taken



NATIONAL GEOGRAPHIC PHOTOGRAPHER BARRY BISHOP

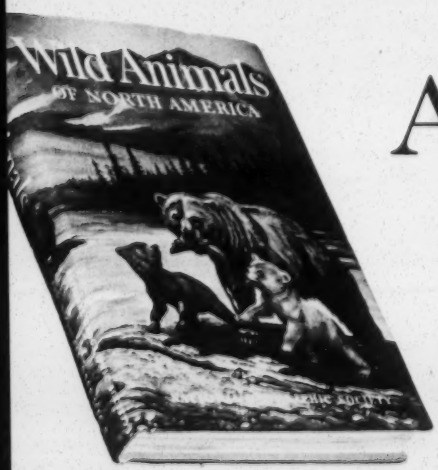
Strips of 32 photographs from *Tiros*'s two cameras show a 4,000-mile swath of Earth and its cloud cover.

Tiros Opens New Era for Weatherman

"We've gone from rags to riches overnight," exults Dr. Harry Wexler, Chief of the Meteorological Research of the U. S. Weather Bureau. Keeping their weather eye peeled from high in the heavens, meteorologists now get a sweeping view of cloud formations. Weathermen put two *Tiros* pictures together, found they could duplicate the weather map of the area printed in the paper that day.

Other experts sized up a typhoon off New Zealand, a cyclone in the Indian Ocean. Highly organized cloud patterns spiraled across 1,000 miles of the Pacific. Such distinctive spirals, weathermen say, may provide a key to the life cycles of storms.

To help find out, the U. S. has asked meteorologists of 21 nations to check local weather conditions to compare with photographs from *Tiros II*, when it goes aloft later this year. A.P.M.



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